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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,989	12/28/2005	Jurgen Ficker	411000-143	3598

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EXAMINER	
SULTANA, NAHIDA	
ART UNIT	PAPER NUMBER
1791	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,989	FICKER ET AL.	
	Examiner	Art Unit	
	NAHIDA SULTANA	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *8-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 December 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/07/2006; 12/28/2005;06/04/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group 1, process claims 1-7 in the reply filed on 12/09/2008 is acknowledged. The traversal is on the ground(s) that claim 1, group 1, is an independent claim for a given process and claim 8 is an independent claim in group II, for an apparatus or means specially designed for carrying out the process of claim 1. This is not found persuasive because Group I and II , the inventive concept such as special technical feature is "patterning organic layer" and this technical feature is shown in prior art (US Patent No. 7, 416, 692 B2 and also in US Patent No. 5, 259, 926). Furthermore, the process of claim 1 is not the sole process which the apparatus can carryout, other processes can be carried out as well.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 5. illustrate a drawing of the device for patterning organic layer, however, the drawing is missing most of the item numbers mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuwabara et al. (US Patent No. 5, 259, 926).

For claim 1, Kuwabara teach: a method for patterning an unpatterned organic layer comprising a layer-forming substance for use in organic circuits, the method comprising ("The present invention relates to a method of manufacturing a thin-film pattern on a substrate and, more particularly, to a method of manufacturing a large-scale mask pattern for use in etching on a large substrate"; Col. 1, Lines 5-10; "In an improved method according to one aspect the present invention, the step of forming the

mask pattern includes the steps of: forming a layer of an organic resin on the thin film on the substrate; and forming the organic resin layer in a desired pattern by pressing against the organic resin layer a forming surface of a forming member, forming surface having projections and recesses arranged in substantially the same pattern as the mask pattern."; Col. 2, Lines 40-50; Col. 3, Lines 5-120, Lines 55-65) : applying a patterning device at a predetermined (" In FIGS. 1A through 1D, reference numeral 1 denotes a substrate; 2, a thin film made of a conductor, a semiconductor or an insulating material; 3, an organic resin layer; 4, a die or a forming member having substantially the same dimensions and shape as those of the substrate 1; 5 a mask pattern; and 6, a thin-film pattern."; Col. 3, Lines 55-60), elevated temperature and at a predetermined pressure to contact points on the organic layer, the layer-forming substance of the organic layer retreating from the contact points in response to the applied pressure and elevated temperature to thereby form depressions and/or holes in the organic layer ("During pressuring, the organic resin layer 3 is displaced by the projecting portions 4b into the spaces formed between the substrate 1 and the recessed portions 4a of the forming member 4. In that case, the substrate 1 and the projecting portions of the forming member 4 are substantially in close contact with each other, substantially no organic resin is left between substrate 1 and the projecting portions 4b"; Col. 4, Lines 15-20, "The substrate 1 with the organic resin portions 3a thereon is sent to, for example, a heating device to heat and set the organic resin portions 3a. After setting, the substrate 1 with the organic resin portions 3a is further heated at the setting temperature for a predetermined period of time to enhance the adhesion between the organic resin

portions 3a and the thin film 2 and thereby form the mask pattern 5 serving as the protection mask for etching on the thin film 2."; Col. 4, Lines 35-40; and see throughout the patent).

For claim 2, Kuwabara et al. teach: choosing the substance which forms the organic layer such that the organic layer is opened permanently under the applying action of the patterning device (example Figure 1A-1D; Col. 4, Line 5-30).

For claim 3, Kuwabara et al. teach: including effecting the applying step over a predetermined time period (After setting, the substrate 1 with the organic resin portions 3a is further heated at the setting temperature for a predetermined period of time to enhance the adhesion between the organic resin portions 3a and the thin film 2 and thereby form the mask pattern 5 serving as the protection mask for etching on the thin film 2."; Col. 4, Lines 35-40).

For claim 4, Kuwabara et al. teach: including supporting the patterning device on a planar carrier (example Figure 4. Item# 12's; "First, the thin film 2 of a conductor, a semiconductor or an insulator is formed on the substrate 1. The substrate 1 with the thin film 2 formed thereon is placed on the rollers 12 and is thereby moved in the direction indicated by the arrow A, while the cylindrical forming member 9 is rotated at a fixed portion"; Col. 7, Lines 32-45).

For claim 5, Kuwabara et al. teach: including forming the patterned organic layer depressions and/or holes in accordance with a pattern on the patterning device ("In an improved method according to one aspect of the present invention, the step of forming the mask pattern includes the steps of: forming a layer of an organic resin on the thin

film on the substrate; and forming the organic resin layer in a desired pattern by pressing against the organic resin layer a forming surface of a forming member, the forming surface having projections and recesses arranged in substantially the same pattern as the mask pattern. "; Col. 2, Lines 40-50; Example Figure 1A-1D).

For claim 6, Kuwabara et al. teach: including providing a further layer covered by the organic layer, the depressions and/or holes essentially extending continuously to the further layer ("In this embodiment, a desired layer of a layer of the organic resin having thereon repeated patterns, each of which corresponds to the pattern on the forming surface of the cylindrical forming member 9, can be formed on the thin film 2 of the substrate 1 by increasing the number of rotation of the cylindrical forming member 9. Thus, this embodiment is effective to form a plurality of identical thin-film patterns on the overall surface of the substrate 3, as in the case of a TFT liquid crystal pane."; Col. 6, Lines 55-65).

For claim 7, Kuwabara et al. teach: including forming the depressions and/or holes for forming plated-through holes (Col. 6, Lines 65-68; Example Figure 3 to 5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

"Pattern forming method and pattern forming device" taught by (US Patent No. Funahata et al. (US Publication no. 2004/0211329 A1) shows patterning forming

method and pattern forming apparatus which can form micro pattern at a low cost.

"Fabrication of finely featured devices by liquid embossing" taught by Jacobson et al. (US publication no. 2004/0013982 A1) shows embossing liquid layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAHIDA SULTANA whose telephone number is (571)270-1925. The examiner can normally be reached on Mon- Fri 7:30 Am - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 517-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NS

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791